

A Sign of the Pines

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When we try to pick out anything by itself, we find that it is bound fast by a thousand invisible cords that cannot be broken, to everything in the universe.

Naturalist John Muir reflected on the connection between all parts of nature when he wrote those words during his first summer in the Sierra Nevada Mountains 140 years ago. I'm reminded of Muir's words when I think of another natural jewel: the million-acre Pinelands area of southern New Jersey.

The Pinelands is home to vast water supplies and dozens of rare plant and animal species who find refuge in the region's expansive mosaic of forests, swamps and streams. Protecting these natural resources is critical for the ecosystem's survival. It's also critical for the people who rely on these resources for their own survival.

In many ways, Pinelands preservation protects people as well.

More than 700,000 people live in the Pinelands National Reserve, which covers all or part of 56 municipalities in Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester and Ocean counties.

Protecting water supplies is paramount in the Pines -- for the ecosystem and people. More than 1 million people in South Jersey get their drinking water from the Kirkwood-Cohansey aquifer system, which are layers of sand and gravel that lie beneath the Pinelands and hold 17 trillion gallons of pure

water.

It is highly likely that these water supplies would be significantly degraded absent the special protections afforded to the Pinelands. Rainwater passes quickly through the region's sandy soils before reaching the water table, and can easily carry along pollutants from septic tanks, landfills and other sources.

Pinelands regulations have successfully guided development away from the sensitive, 360,000-acre preservation area, protecting large tracts of land in the region's core. This heavily-forested area absorbs water like a giant sponge, recharging the aquifer and limiting the negative effects of development on water quality.

Wetlands cover 35 percent of the Pinelands and are another invaluable resource that receives special protection for the benefit of the Pinelands ecosystem and people. Wetlands provide habitat for 80 percent of the region's rare plants and animals. They also purify water by removing sediments, fertilizers, toxins and heavy metals. One acre of wetlands can store up to 1.5 million gallons of stormwater runoff, which helps to prevent flooding. A recent study of New Jersey's "natural capital" estimated that the state's freshwater wetlands provide \$9.4 billion a year of ecosystem services, ranging from water filtration and water supply to buffering against floods.

The Pinelands covers 22 percent of New Jersey, and approximately 80

percent of this region consists of water, wetlands and forest. By cleaning our air, absorbing greenhouse gases and improving water quality, these forests are clearly a vital resource for the health of the Pines and the planet as a whole.

Just consider that 100 mature trees typically remove 53 tons of carbon dioxide and 430 pounds of air pollutants per year, while also recharging groundwater by capturing about 139,000 gallons of rainwater annually, according to the U.S. Department of Agriculture (USDA). The USDA also estimates that one acre of trees provides clean oxygen for seven people and will clean the air polluted by eight cars operated for 12 hours.

The New Jersey Pinelands Commission, the agency charged with overseeing land-use in the Pinelands, has made significant strides in safeguarding these natural treasures during the past 30 years. In the past year alone, the Commission has approved a series of measures aimed at better protecting the region's water supplies and forests, while also further studying these resources and providing funds to permanently preserve thousands of additional acres of ecologically-valuable land.

Although it can be hard to recognize at times, we should never forget the ties that bind us to our environment. After all, Pinelands preservation relies on people just as much as people rely on the ecosystem itself for their own survival.